
UNIT 7 SUPPLEMENTARY FEEDING PROGRAMMES

In this Unit, you will study the various supplementary feeding programmes initiated by the Government of India both at the Centre, as well as at the State level. These programmes help the vulnerable groups of society in meeting their nutrient needs.

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7.0 OBJECTIVES

After going through this unit, you will be able to:

- explain the origin and operation of various feeding programmes in the country, and
- appreciate the integrated approach involved in Integrated Child Development Services (ICDS).

7.1 INTRODUCTION

In an effort to ensure proper nutrition to the children and women of the weaker sections of the society in both the urban and rural areas, the Governments at both the Centre and the State levels, have taken up special feeding programmes. These are, at present, considered an important way of improving the nutritional standards of the country. Thus, money has been specially allotted to these programmes in various Five Year Plans of the country by both Central and State Governments.

7.2 OBJECTIVES OF THE FEEDING PROGRAMMES

The main objective of the feeding programmes is to improve the nutritional status of the community. Malnutrition is a major problem facing the country. Undernutrition classified as one state of malnutrition refers to inadequacy of food intake by sections of the population. Undernutrition is seen mostly in economically backward people residing in rural, tribal and urban slums. The dietary surveys conducted by the National Nutrition Monitoring Bureau (NNMB) reveal that 50 per cent of the households surveyed in different states consume food which is inadequate to meet their requirements of either energy or protein or both. Malnutrition may be prevalent even among other groups due to lack of nutrition knowledge. Thus, the objectives of the feeding programmes are:

- 1) To supplement the diets of weaker sections of the community to combat undernutrition
- 2) To educate the community for combating and preventing malnutrition.

7.3 NEEDS FOR SUPPLEMENTATION

In order to fulfil the objectives and to benefit the most needy population, it is essential to have some yardstick to measure the nutritional status of people.

Infant and Pre-School Mortality: Infant mortality rate is one of the indices of the general state of public health of a community. Though the infant mortality rate is declining in the last three decades, it is still high in India as compared to other developing countries. Nearly 40-45 per cent of infant mortality occurs during the neonatal stage i.e. below one month of age. The major cause of this high infant mortality rate is maternal malnutrition because infants at the foetal stage and also after birth depend on the mother for their nutritional requirement. Thus, to prevent/decrease infant mortality mothers have to be provided adequate nutrition during pregnancy and the period of lactation.

The mortality rate of pre-school children i.e. the age group 1-5 years is also high in India. According to the National Institute of Nutrition, children in this age group constitute about 16.5 per cent of the total population but deaths within this age group account for 40 per cent of the total deaths in the country. The main cause of this high toddler mortality rate is both inadequate intake and poor quality of foods consumed. As you have learnt in Course II, infants after the age of 6 months need energy and protein-rich solid supplements in addition to breast milk. In India, among the low income groups, solid supplements are given after the child is 1.5 to 2 years. Thus, late introduction of solid supplements causes growth retardation and other deficiency symptoms. Inadequacy of energy foods leading to Protein Energy Malnutrition of varying degrees is a major problem among pre-schoolers. Thus, to prevent a high rate of mortality among pre-schoolers, their diets have to be supplemented with protein and energy.

Other Nutritional Problems: Anemia in children and pregnant women, and vitamin A deficiency among children are the two other major nutritional problems facing the country. As you know, iron deficiency leads to anemia. Iron is an important mineral required for blood formation. A pregnant woman needs this mineral in larger proportion than a normal woman because of her own need, and also to cater to the needs of the growing foetus which stores iron for its later use during infancy. Thus, for the infant to be born with an adequate store of iron, the mother needs to take additional iron during pregnancy. In India, anemia is one of the common deficiency diseases during pregnancy which is the cause of high maternal mortality at the time of delivery. Anemia is also one of the causes of death during infancy. In order to prevent both maternal mortality at the time of delivery due to anemia and to reduce infant mortality caused by the same condition, pregnant mothers have to be supplemented with iron and also folic acid which are blood forming nutrients, in addition to protein and energy foods.

Blindness due to vitamin A deficiency is another major nutritional problem in the country. According to nutritionists, 80 per cent of blindness of nutritional origin could have been prevented by providing this vitamin in adequate amounts to pre-schoolers. Vitamin A is present mainly in animal foods. But you have learnt in Course I that the main source of this vitamin in an Indian diet is beta carotene which is a yellow/orange pigment present in fruits and vegetables and is the precursor of this vitamin. The fruits and vegetables rich in carotene (for example carrot, papaya, mango, leafy vegetables) are seasonal and are not available throughout the year. However, our body has the capacity to store this vitamin in a large quantity and utilize the same as needed. Thus to ensure its adequate storage for utilization throughout the year, (as a precautionary measure to prevent blindness), it is essential to make provisions for supplementing the diets of children with a large dosage of vitamin A.

Goitre is another nutritional problem caused in certain parts of India. It is caused by iodine deficiency. You get iodine through sea foods and vegetables grown in soils rich in iodine. The soil in hilly regions and the areas away from sea are low in this mineral. Thus the foods produced in these regions are low in iodine. Iodine is required for the production of the hormone thyroxine by thyroid glands. When iodine is inadequate in the diet, the thyroid gland swells enormously and the disease is called goitre. You might have observed some individuals having swollen parts in the neck. So, in order to prevent goitre which is of

endemic nature in certain parts of the country, diets of people living in those regions need to be supplemented with iodine. Thus, you see that the following supplementary steps in terms of intake of nutrient have to be taken to prevent major nutritional disorders in the country.

- 1) Supplementation of energy and protein in the diets of pregnant and nursing mothers and pre-school children to prevent malnutrition among children below 6 years.
- 2) Supplementation of iron and folic acid to prevent iron deficiency anemia among pregnant mothers and infants.
- 3) Supplementation of vitamin A to prevent blindness among pre-school children.
- 4) Supplementation of iodine to prevent goitre in certain regions.

Check Your Progress

- 1 What do you understand by 'Vulnerability' to the ill effects of undernutrition? Who are usually vulnerable to undernutrition?

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- 2 What are the common nutritional disorders found in India?

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7.4 FEEDING PROGRAMMES

A number of programmes are in operation in several states. The Central Government acts as an advisory agency, while most of the finances for these programmes come from the State Governments. Though the problem of malnutrition had been recognised since the inception of the five year plans and a number of schemes had been introduced for combating the same, nutrition was just a component of the health sector in the first three plans. It was in the fourth plan that an integrated approach was introduced.

7.4.1 Applied Nutrition Programme (ANP)

The ANP, introduced in 1960, is now mainly of historical interest. The ANP had three main components. The components were production, consumption and training. The production component encouraged farmers to produce more protective foods such as eggs, fish, vegetables and fruits rich in vitamin A and vitamin C by organizing a community poultry unit, a fishery unit in rural areas, community gardens in schools and kitchen gardens in rural households. Necessary inputs in the form of equipment, seeds, saplings and know-how were provided by the Government. Under the consumption component, feeding of protective foods thus produced in community units to the most vulnerable group i.e. children below six years, pregnant and nursing mothers was undertaken. For this it was compulsory to distribute one-third of the produce from these projects to these groups wherever ANP was in operation. The third component, education, was carried out by the Government and its agencies through organization of training programmes and demonstrations in poultry, fisheries, horticulture and home science as an essential complement to the first two components.

7.4.2 Mid-Day Meal Programmes (MDM)

MDM was introduced about the same time as ANP in both rural and urban areas with the main objective of encouraging children to attend school regularly and to reduce the number of drop-outs from the school. Thus, the beneficiaries are mainly school age children of 6-11 years. Under this programme, children are given a meal to supply 300 calories and 8-12 g. of protein per day. The programme was started mainly with CARE-donated food items and financial assistance from the State Governments. Wherever ANP was in operation and the community school garden was established, the produce was used in feeding the children along with other foods.

7.4.3 Special Nutrition Programme (SNP)

As a crash programme to meet the needs of the vulnerable segments of the population, the SNP was introduced in 1970-71 by the Central Government and later it was transferred to the state sector under the Minimum Needs Programme during the fifth Plan. This programme was also largely based on external food aids through CARE and World Food Programme (WFP). Under this programme, each beneficiary in the age group of 0-6 years is provided food to supply 300 calories and 8-12 g. of proteins a day. The pregnant and nursing mothers get supplementary food which provides 500 calories and 25 g. protein per day. Until the end of the sixth Five Year Plan, 11 million beneficiaries have taken advantage of this programme.

7.4.4 Integrated Child Development Services (ICDS)

Realising the various contributing factors for the nutritional problems in the country, an integrated approach was introduced in the programme in the year 1975-76 (Fig. 7.1). The ICDS aims at the total allround development of children. This demands emphasis on factors like nutritional status, hygiene, sanitation and education. The ICDS serves people through Anganwadis. Generally an anganwadi worker is the local woman who provides an integrated package of health, nutritional and educational services to children below six years and to pregnant and nursing mothers. In the areas where ICDS has been introduced, the SNP has also been brought under this project.

7.4.5 Nutrition Prophylaxis

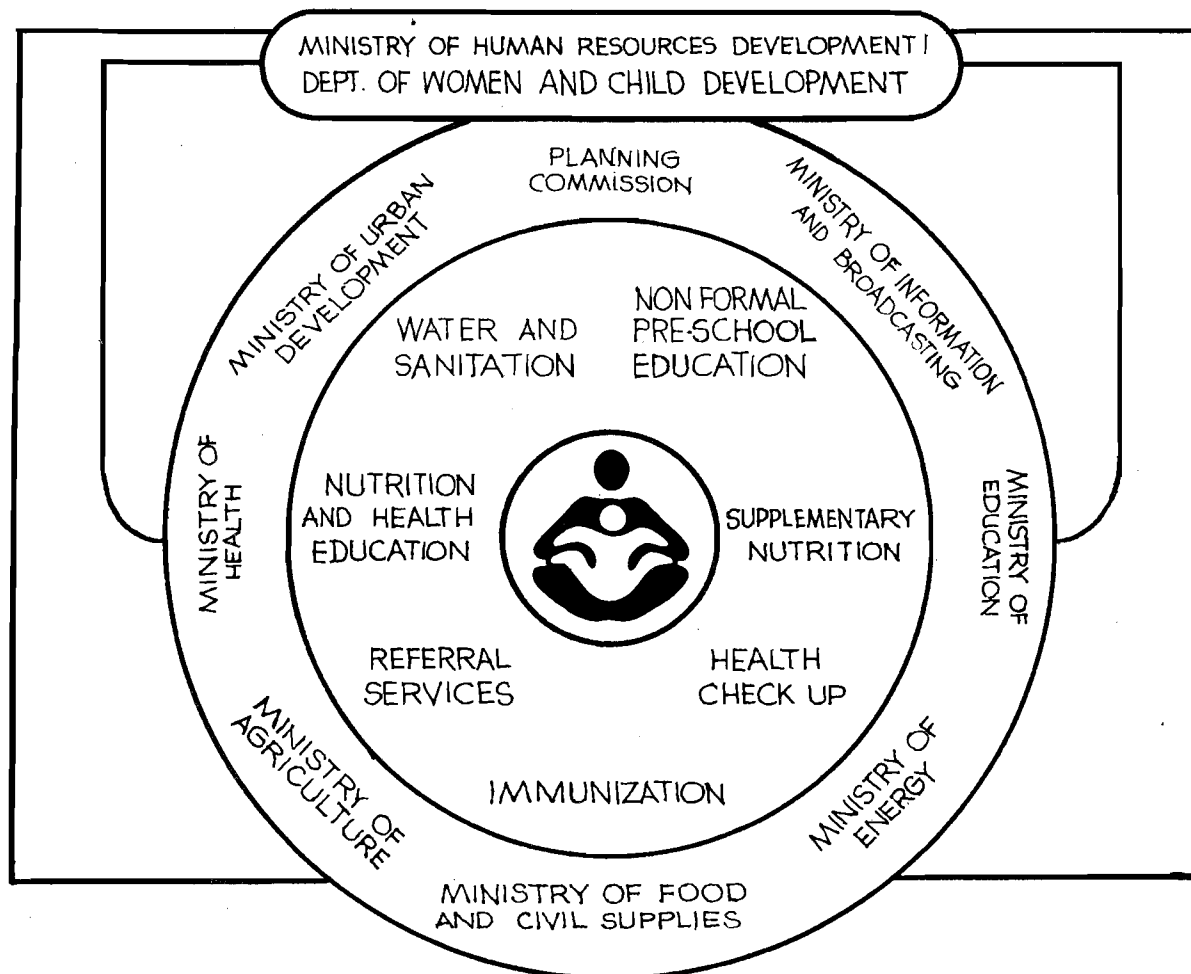
These are mainly preventive programmes known as prophylactic programmes and are operated through health departments of the state. Under this programme a capsule containing 2,00,000 I.U. of vitamin A is given to all children of the age 3-6 years, once in six months, to prevent blindness. The same dosage is also given to the nursing mother once as an aid to increase vitamin A content in breast milk.

Fortification of milk with vitamin A has also been started to prevent nutritional blindness. The programme was started in 1980 by Mother Dairy, Delhi. It has since been extended to 31 Dairies in the country covering 13 States and 2 Union Territories. The total quantity of milk fortified by these dairies is about 29.5 lakh litres per day (1987-88).

To prevent anemia during pregnancy and in infants, iron and folic acid supplements are given to pregnant women in the latter part of pregnancy.

FIG. 7.1. INTEGRATED CHILD DEVELOPMENT SCHEME

INTEGRATED SERVICES



Source: A decade of ICDS, Integrated Child Development services by Ministry of Human Resources Development (Department of Women and child Development) Government of India.

As a precautionary measure to prevent goitre, common salt is being fortified with iodine. You must have seen the fortified table salt packets as iodised salt being sold in the market.

7.4.6 Other Programmes

Besides the feeding programmes mentioned above, the Department of Food of the Government of India has established 34 Mobile Extension Units (MEU) in different parts of the country to popularise local low cost foods, to promote suitable dietary habits, and to propagate nutrition education. They conduct demonstrations, and also show films and slides, distribute folders, pamphlets, booklets and wall posters for effective communication. The Department of Food has also set up 33 Food and Nutrition Extension Centres (earlier known as community canning and preservation centres) in different parts of the country to impart education and training in nutrition.

A special beverage called 'miltone' which is based on the blend of milk and vegetable proteins has also been initiated by the Government of India. Five processing plants have been established and 43,000 litres of miltone are being produced per day for distribution (1987-88).

Three energy food plants and five ready-to-eat snack plants have also been established in the country which are producing 63 metric tonnes of such food per day (1987-88). These foods are being used in replacing CARE foods both in SNP and MDM programmes.

Some state governments have also started providing some fixed quantities of food items which are in nutrients at subsidised prices to the weaker sections of the society.

Check Your Progress

3 What is Applied Nutrition Programme? How is nutrition provided under this programme?

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4 What is a special nutrition programme? What are its main objectives?

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5 What aspects are included under Integrated Child Development Services?

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6 What do you understand by Miltoe and Fortification?

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7.5 LET US SUM UP

In this unit, you have read about various nutritional programmes which are in operation. The main objective of these programmes is to improve the nutritional status of the community with special reference to mothers and children. The causative factors for nutritional problems being many, an integrated approach to combat malnutrition has been taken up by establishing ICDS programmes. Nutrition education is an integral part of all feeding programmes.

7.6 GLOSSARY

CARE (Co-operative for American Relief Everywhere): It is an International agency which works for the welfare of people.

Fortification : Addition of extra nutrient(s) in a food at the time of processing with a view to increase the nutritive value of that food. (For example addition of vitamin A and D in vanaspati, vitamin A in milk, iodine in salt etc.

Goitre : Goitre is a nutritional deficiency disease caused by the deficiency of the mineral, iodine, in the body and is characterised by the enlargement of the thyroid gland in the neck.

Infant Mortality Rate : Number of deaths under one year of age per 1000 live births. It is calculated as under:

$$\frac{\text{No. of deaths under one year of age during a period of time}}{\text{No. of live births during the same period.}} \times 100$$

Neonate : A child less than a month old.

Prophylaxis : Prophylactic or preventive treatment. (Prevention against a specific nutritional deficiency by administering a specific nutrient through tablets, syrups or injections in advance.)

Supplementation : Provision of extra food to bridge the gap between the existing diets and the actual requirements (since diets of pre-school children, pregnant and lactating mothers are found to be deficient in energy, protein and other nutrients, food supplements are provided to overcome the dietary deficiencies).

7.7 ANSWERS TO CHECK YOUR PROGRESS

1 Vulnerability is susceptibility of a person to the ill effects of undernutrition. Certain age groups whose nutritional requirements are more due to the physiological changes taking place in their body are usually more susceptible to the ill effects of undernutrition. Those groups include infants, pre-school children because of their rapid growth, pregnant women because of the development of the foetus inside their body and lactating mothers because of the additional demand of nutrients for production of breastmilk for the baby. These groups are considered to be the most vulnerable groups from the nutritional point of view because nutritional deficiencies during these periods may cause serious damages to these groups. School children and adolescent boys and girls are also vulnerable to a certain extent because of their increased needs for growth.

2 The common disorders or nutritional deficiency diseases found in India are as under in the order of priority:

- i) Protein Energy Malnutrition
- ii) Vitamin A deficiency resulting in Nutritional Blindness.
- iii) Nutritional Anaemia
- iv) Goitre

3 Applied Nutrition Programme introduced in early 60's was the first programme in India which was based on a co-ordinated approach towards malnutrition. It was represented by three thrusts

- 1) Production at the village and family level.
- 2) Education for better consumption.
- 3) Feeding of the vulnerable sections of society.

The production component encourages farmers to produce more protective foods such as eggs, fish, vegetables and fruits rich in vitamins A and C, by organising a Community Poultry Unit, Fishery Unit in rural areas, Community gardens in schools and kitchen gardens in rural households. Necessary inputs in the form of equipment, seeds, saplings and know-how were provided by the Government.

Education for better consumption is carried out by organising training programmes and demonstrations in poultry, fishery, horticulture and home science.

Feeding of the vulnerable groups, namely, children below 6 years, pregnant and nursing mothers was organised from the foods produced in community units. This demonstration feeding was utilised both to educate the community in nutrition as well as to provide supplementary nutrition to the vulnerable groups.

4 Special Nutrition Programme, is a supplementary feeding programme for 0-6 year old children, expectant and nursing mothers. It was started in 1970-71 to provide supplementary feeding for 0-3 years old children in tribal areas and urban slums. It was later extended to cover children in the age groups of 3-6 years and expectant and nursing mothers. The food supplement which provides 200-300 calories and 10-12 g. of protein per child per day and 500 calories and 25 g. of protein per mother per day are given for

300 days in a year under this programme. The basic objectives of this programme are to supplement the diets of the vulnerable section of the population namely infants, pre-school children, expectant and nursing mothers who are found to be deficient in energy, protein and other nutrients.

5 The services provided under the Integrated Child Development Service scheme are as under:

- Supplementary Nutrition
- Immunization
- Health Check-up
- Referral services
- Nutrition and Health Education for Women
- Non-formal pre-school education
- Other supportive services like water supply, sanitation, etc.

6 Miltone is a nutritious milk-like beverage based on 50% groundnut protein and 50% animal milk suitably enriched with vitamins and minerals. The objective of producing miltone is to augment the milk supplies and make it available at comparatively cheaper rates to the community by utilising protein isolate from groundnuts. The miltone produced by the 5 plants set up in the country is being utilised for various supplementary feeding programmes run by the State Governments.

Fortification is the addition of extra nutrients to the foods at the time of processing with a view to increase their nutritive value. The fortification of foods with suitable nutrients is one of the practical and effective methods of providing deficient nutrients to the community without involving a change in the food habits of the people. One of the earliest fortification programmes of the Government was the fortification of Vanaspati with vitamins A and D. At present, milk is being fortified with vitamin A, salt with iodine and fortification of salt with iron is expected to be launched shortly.